

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 1. (Currently amended) A power device, comprising:
 - 2 a semiconductor substrate of first conductivity having an upper surface and a lower surface;
 - 4 a first electrode terminal coupled to a first conductive region provided proximate the upper surface of the substrate, the first electrode terminal being provided over the upper surface of the substrate;
 - 5 a second electrode terminal coupled to a second conductive region provided proximate the lower surface of the substrate, the second electrode terminal being provided below the lower surface of the substrate;
 - 7 an isolation diffusion region of second conductivity provided at a periphery of the substrate and extending from the upper surface to the lower surface of the substrate, the isolation diffusion region having a first surface corresponding to the upper surface of the substrate and a second surface corresponding to the lower surface;
 - 10 a peripheral junction region of second conductivity formed at least partly within the isolation diffusion region and formed proximate the first surface of the isolation diffusion region; and
 - 12 a passivation layer provided over the upper surface of the substrate, the first surface of the isolation diffusion region, and the peripheral junction region, the passivation layer comprising a polyimid layer over and oxide layer,
 - 14 wherein the peripheral junction region is different than the first and second conductive regions, and
 - 16 wherein the first and second electrode terminals define a vertical electrical current path therebetween.

1 2. (Original) The device of claim 1, wherein the peripheral junction region is a
2 P+ region and the isolation diffusion region is a P region.

1 3. (Previously presented) The device of claim 1, wherein the peripheral junction
2 region is provided to compensate the surface depletion of dopants in the isolation diffusion
3 region.

4-25. (Canceled)

1 26. (Previously presented) The device of claim 1, wherein the passivation layer
2 includes an oxide layer and contacts the upper surface of the substrate, the first surface of the
3 isolation diffusion region, and the peripheral junction region.

27. (Canceled)

1 28. (Previously presented) The device of claim 1, wherein the peripheral
2 junction region is provided to compensate the surface depletion of dopants in the isolation
3 diffusion region and increase a reverse blocking voltage of the device by reducing an electric
4 field at the first surface of the isolation diffusion region.

29. (Canceled)

1 30. (Previously presented) The device of claim 1, wherein the device is a diode
2 and the first electrode terminal being separated from the isolation diffusion region.